Proposal for an Experimental Area With only One Large Shaft

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Starting point

- On the suggestion of Andrei, we have looked at the possibility of having only one large 18 m shaft, plus another 9 m shaft.
- We have positioned these two shafts outside the footprint of the main underground hall to to do away with interferences between loading/unloading areas and working areas.
- This solution has been used for 3 of the 4 LEP experiments, Aleph, Delphi, Opal.

Implications

- It necessitates horizontal transport from under the shafts to the experimental cavern, but this is not a problem for a full surface assembly scenario.
- The experiments are assembled underground on their own transport platform.

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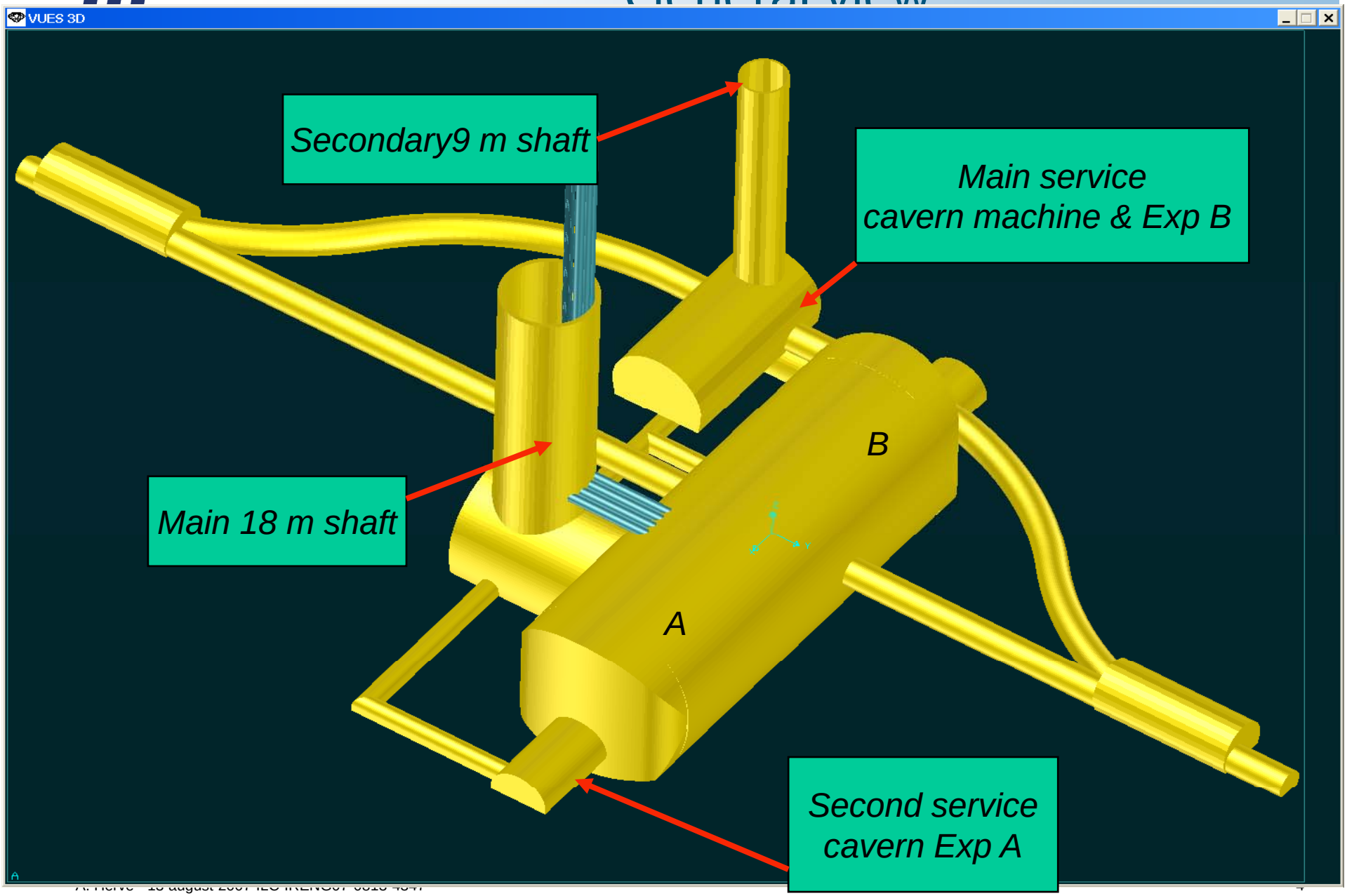
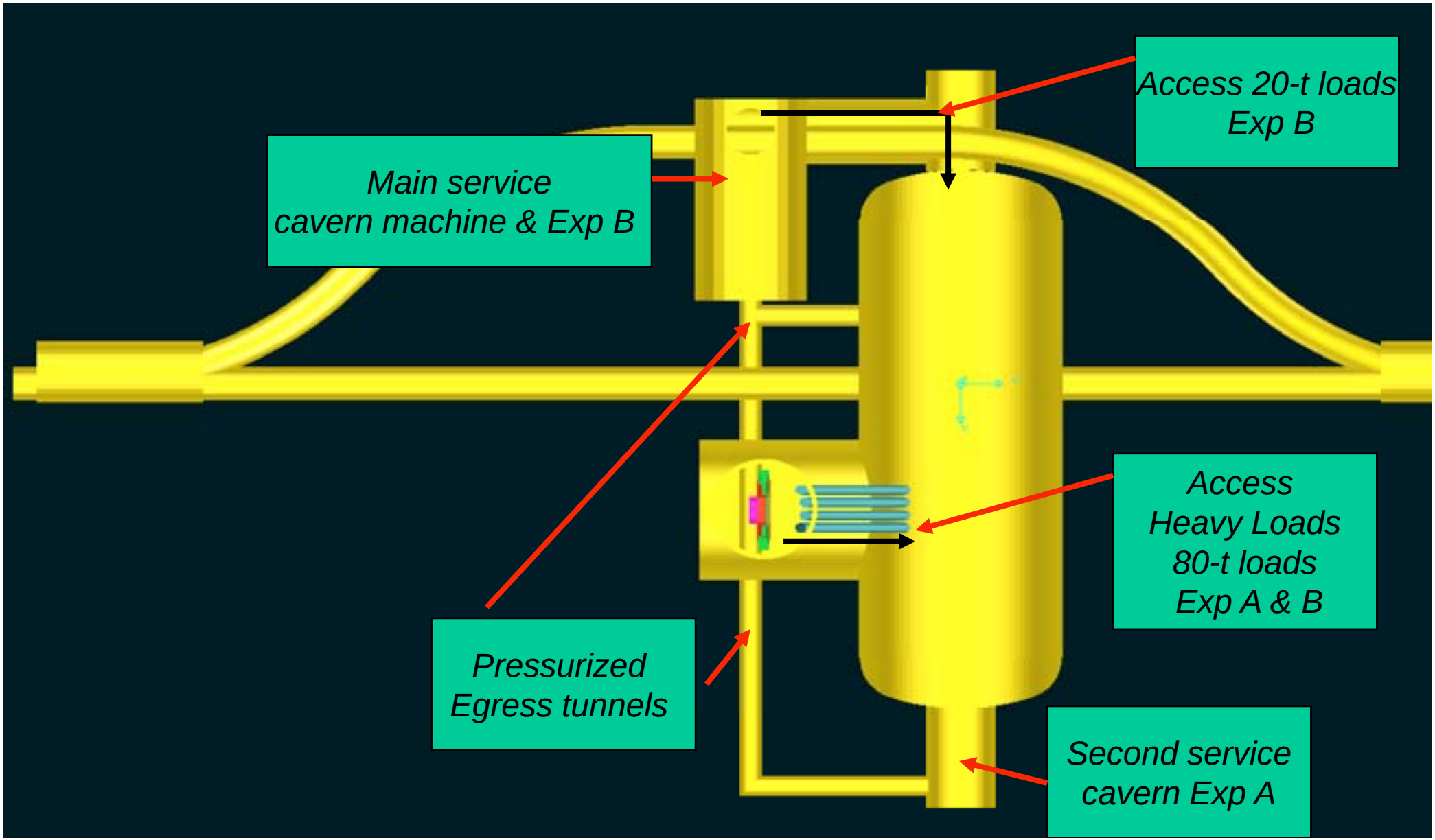
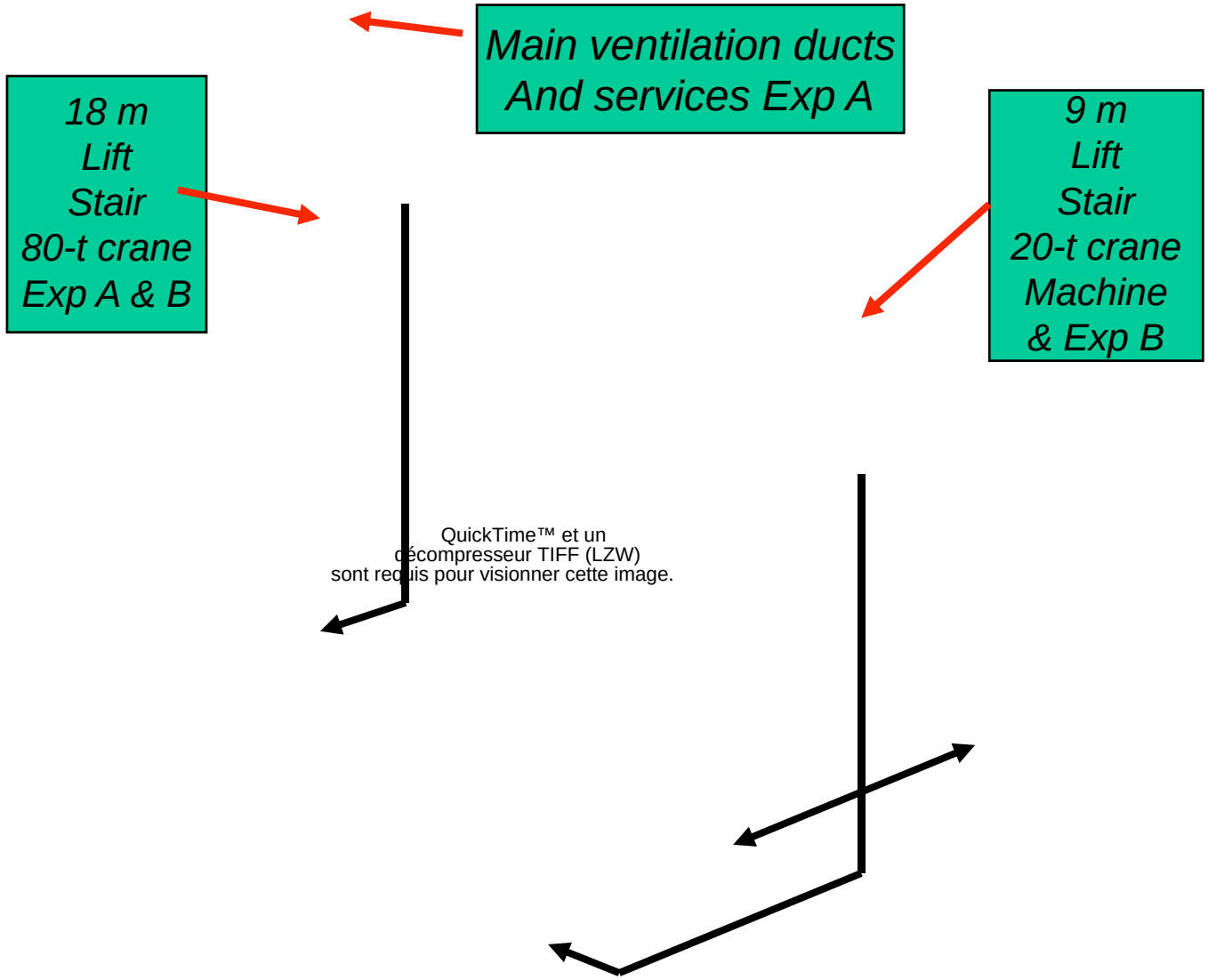
General view



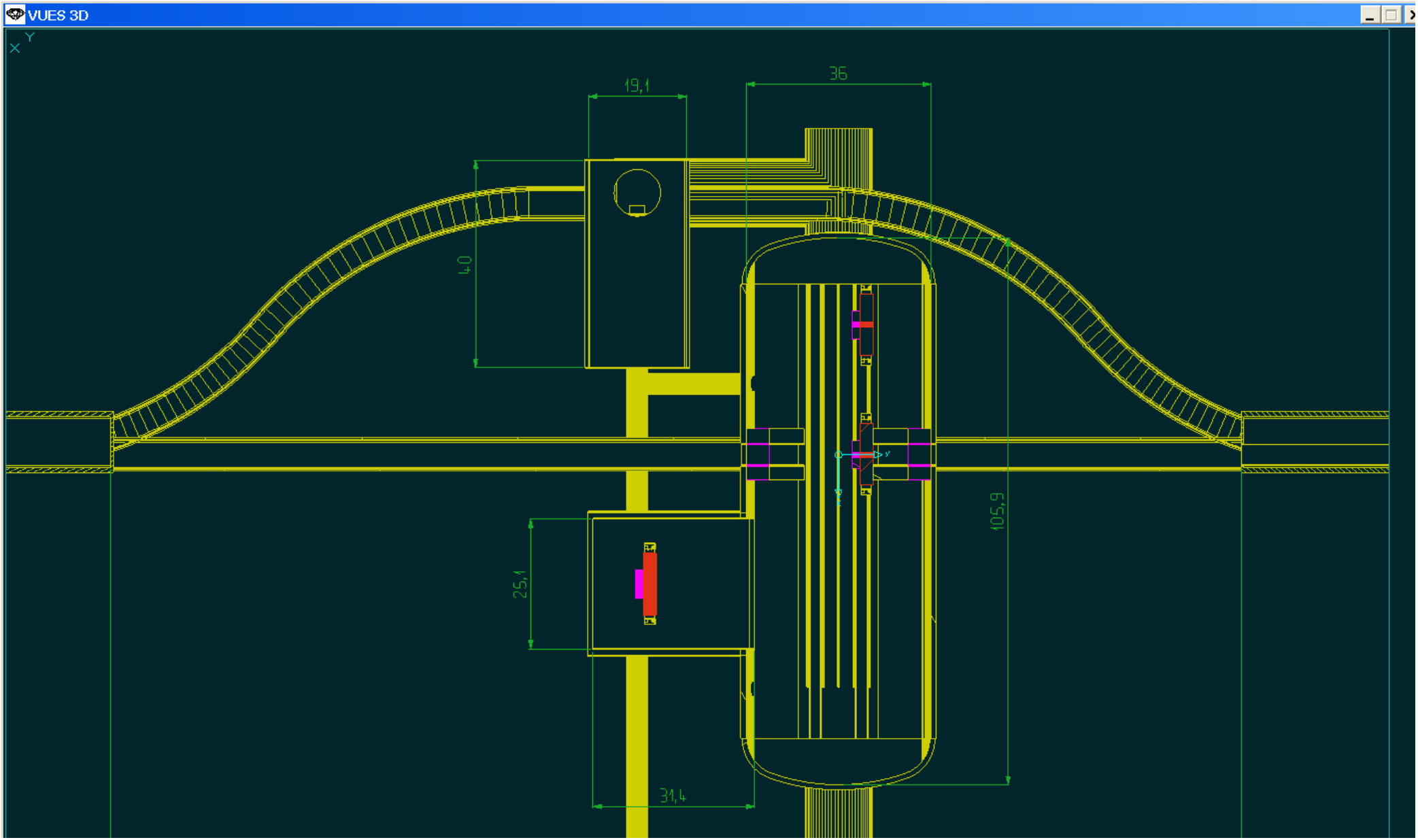
Top view


Access 20-t loads
Exp B
Main service
cavern machine & Exp B
Access
Heavy Loads
80-t loads
Exp A & B
Pressurized
Egress tunnels
Second service
cavern Exp A

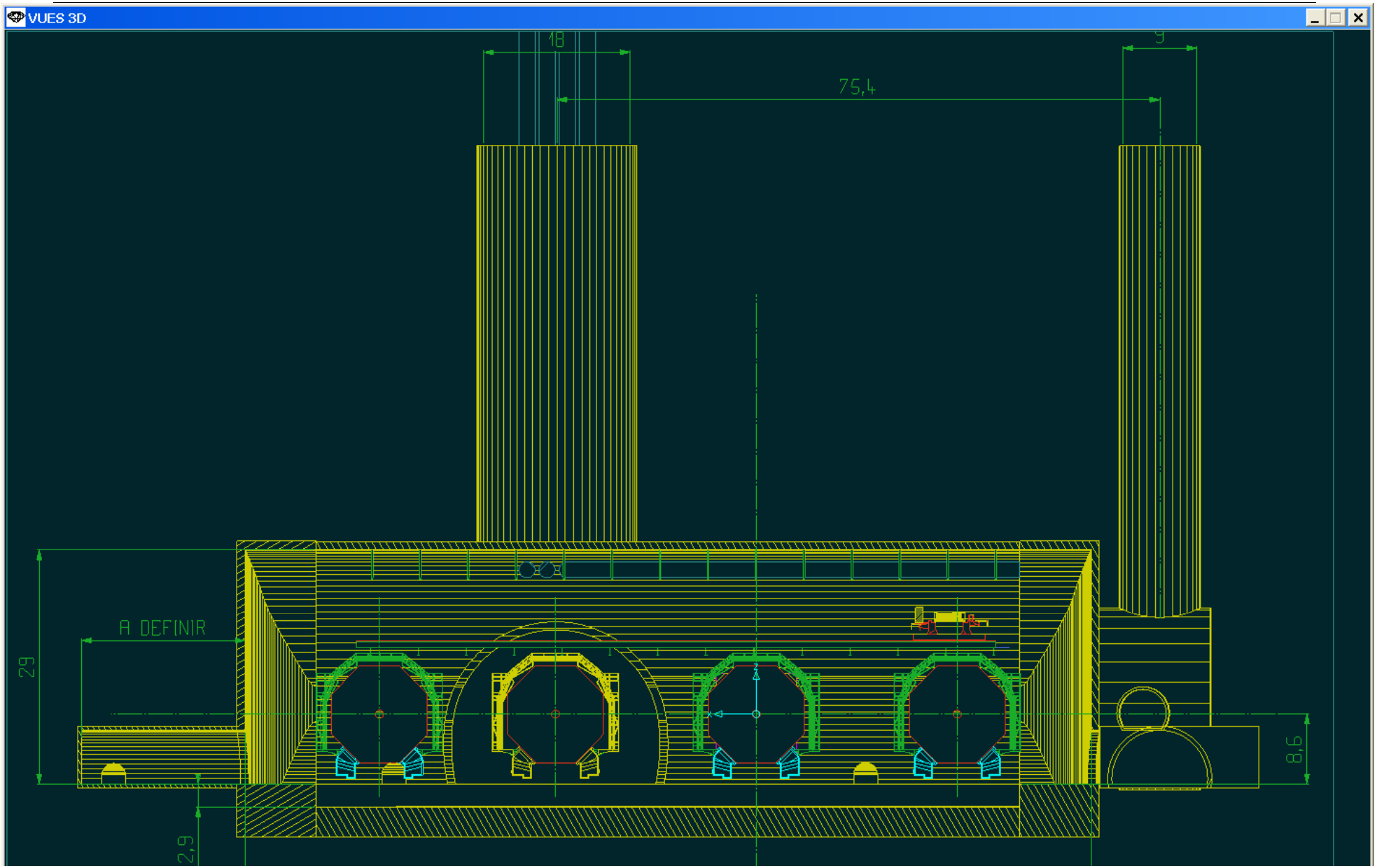
Side view


Main ventilation ducts
And services Exp A
18 m
Lift
Stair
80-t crane
Exp A & B
9 m
Lift
Stair
20-t crane
Machine
& Exp B
QuickTime™ et un
décompresseur TIFF (LZW)
sont requis pour visionner cette image.

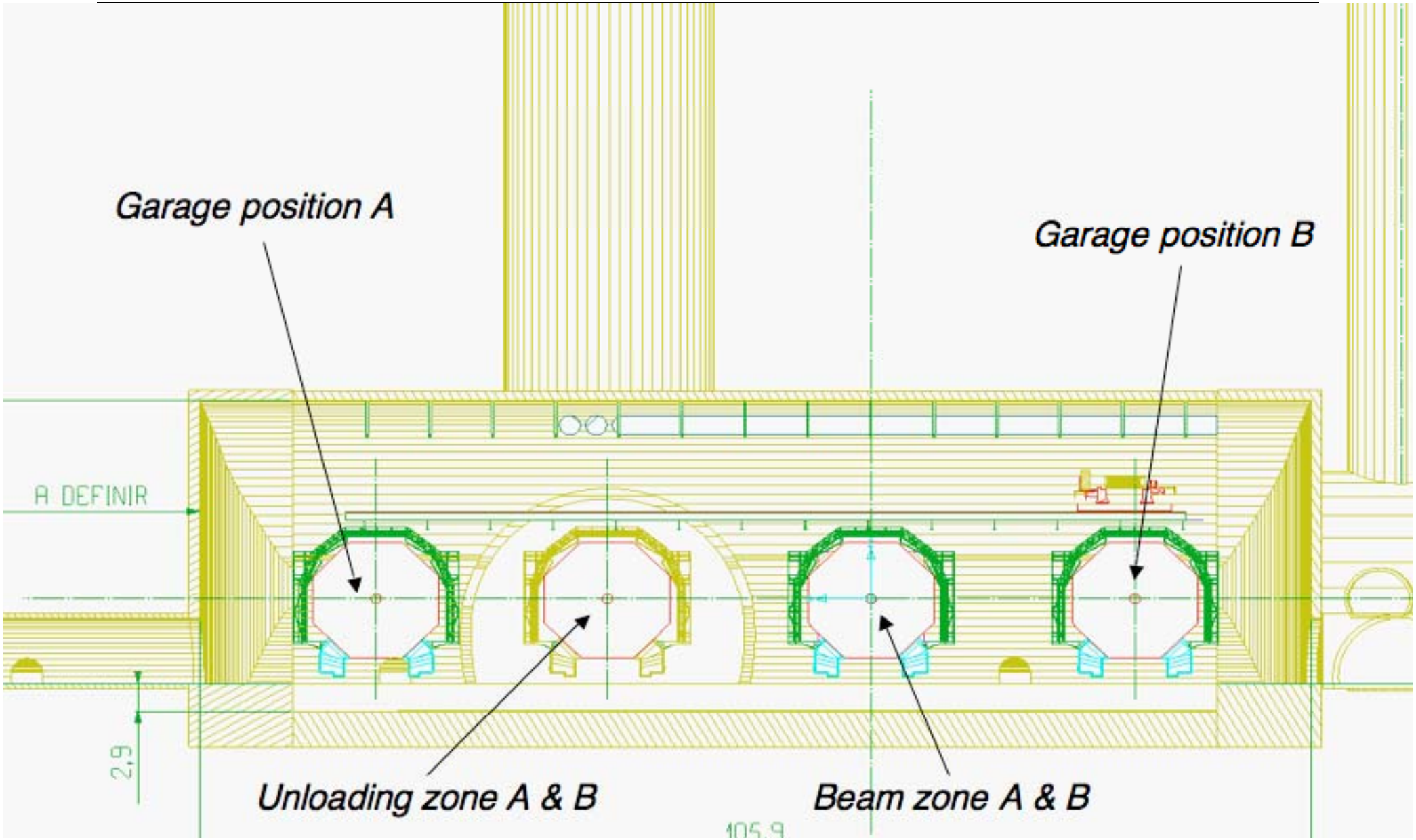
2D top view with dimensions



2D side view with dimensions

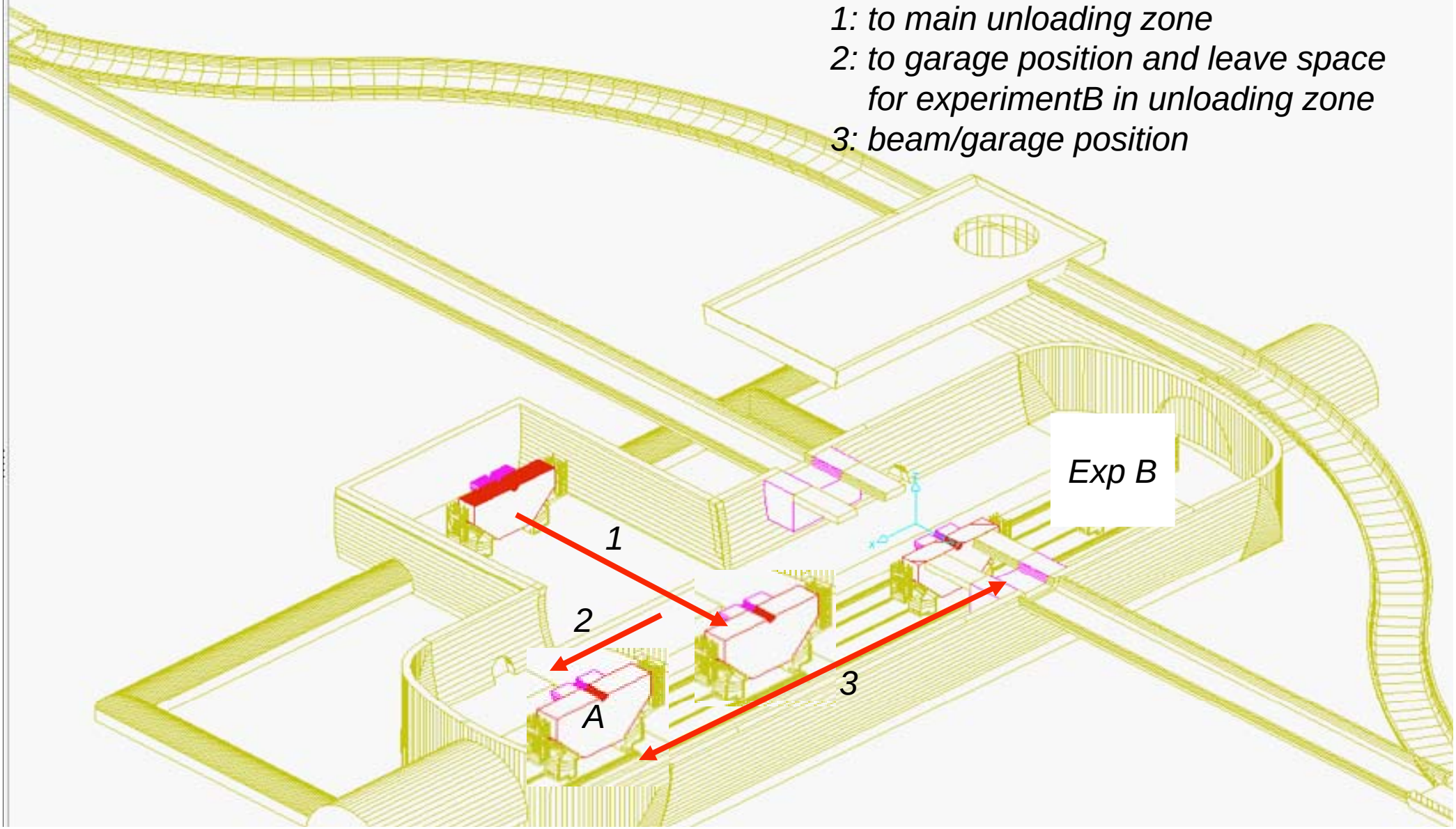


Longitudinal positions

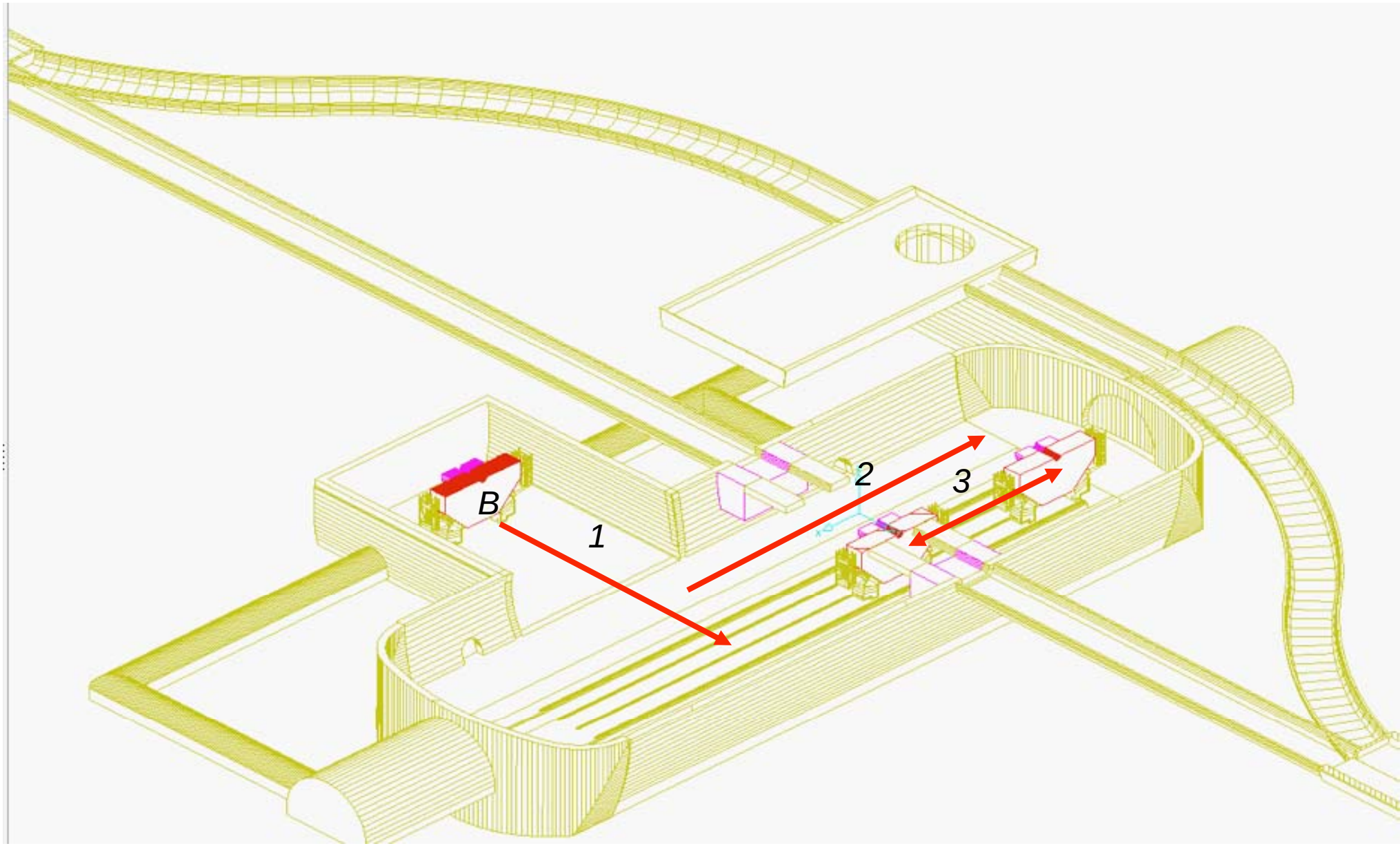


Movements of Experiment A

1: to main unloading zone
2: to garage position and leave space for experimentB in unloading zone
3: beam/garage position

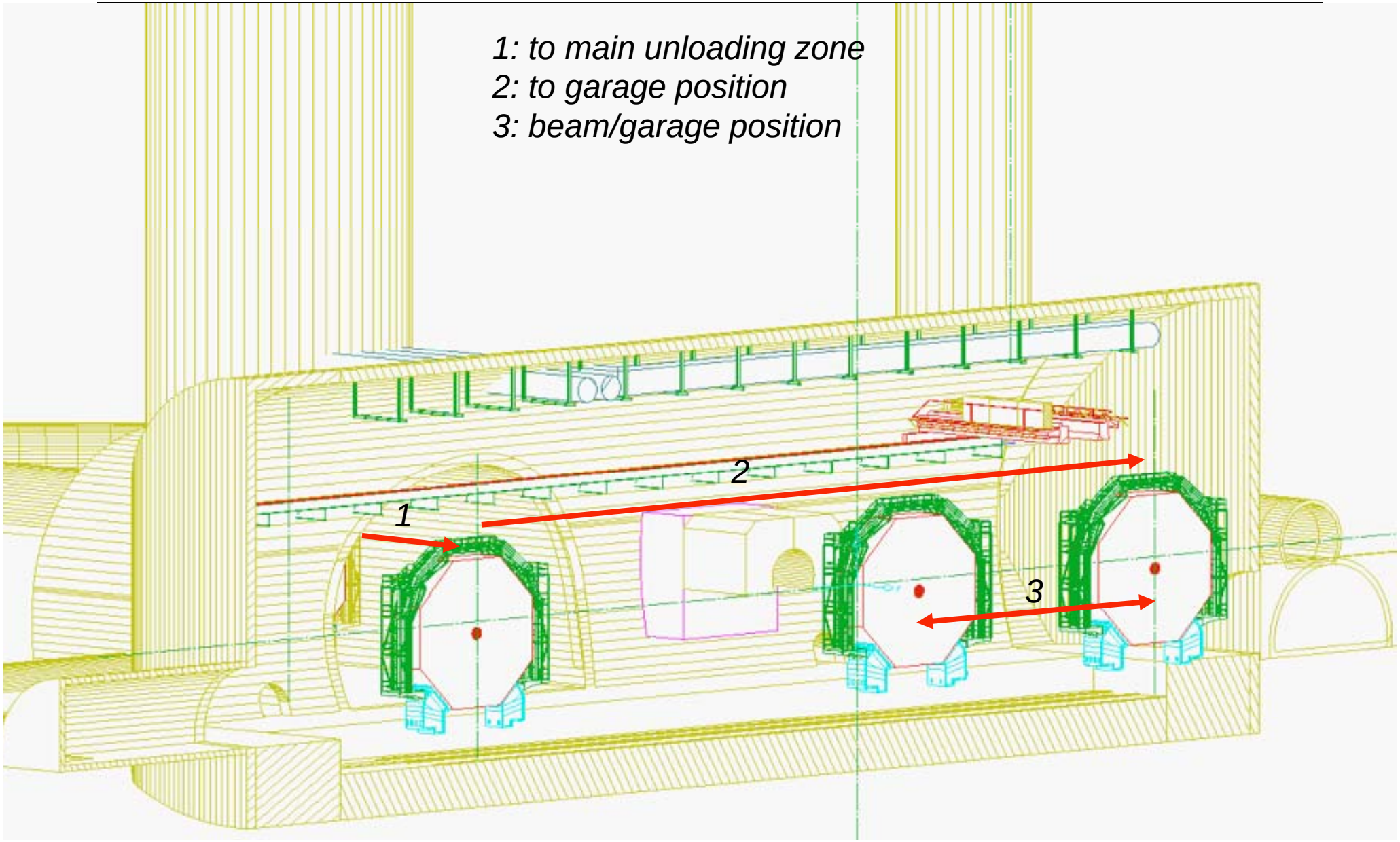


Movements of Experiment B



Movements of Experiment B

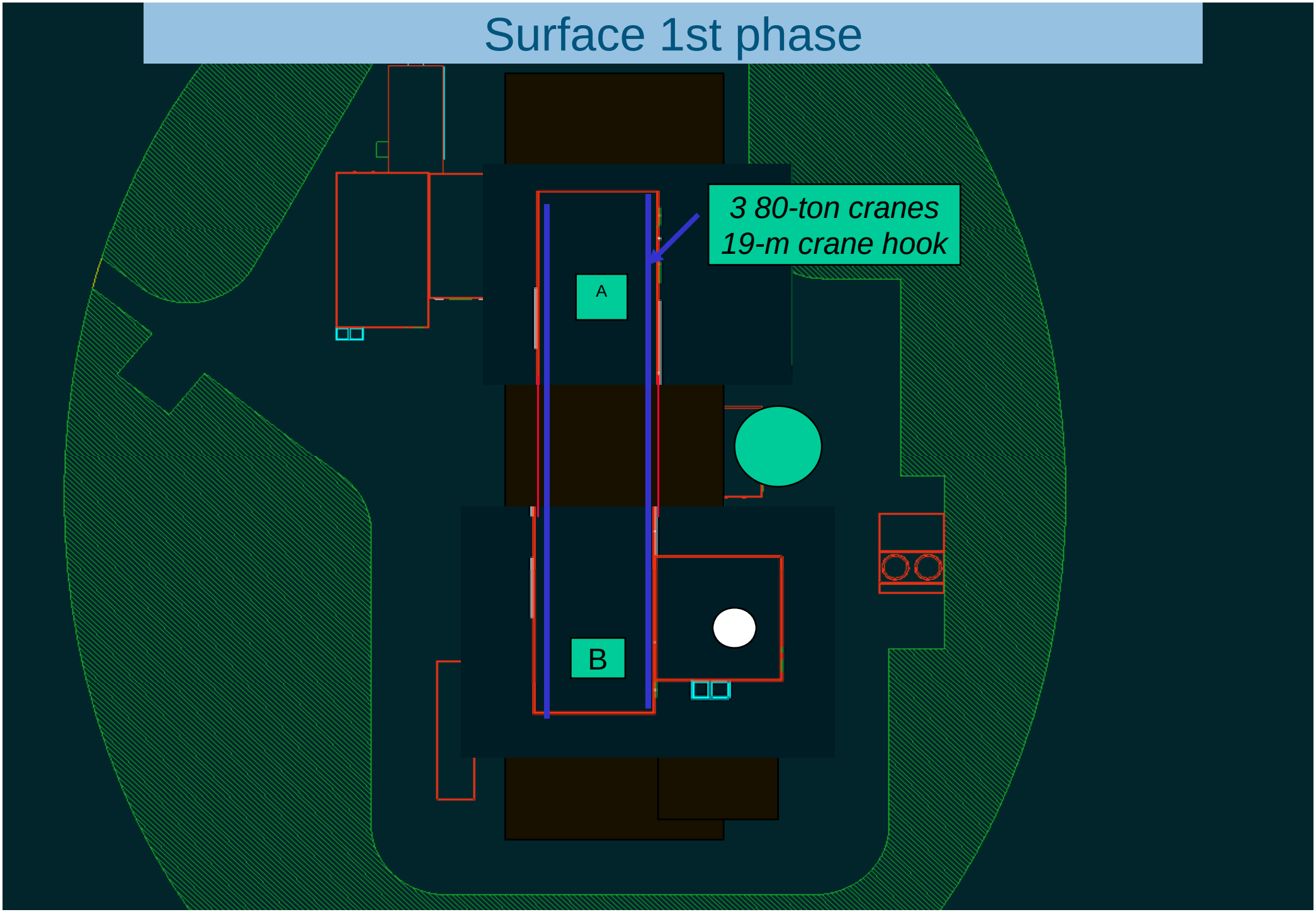
1: to main unloading zone
2: to garage position
3: beam/garage position



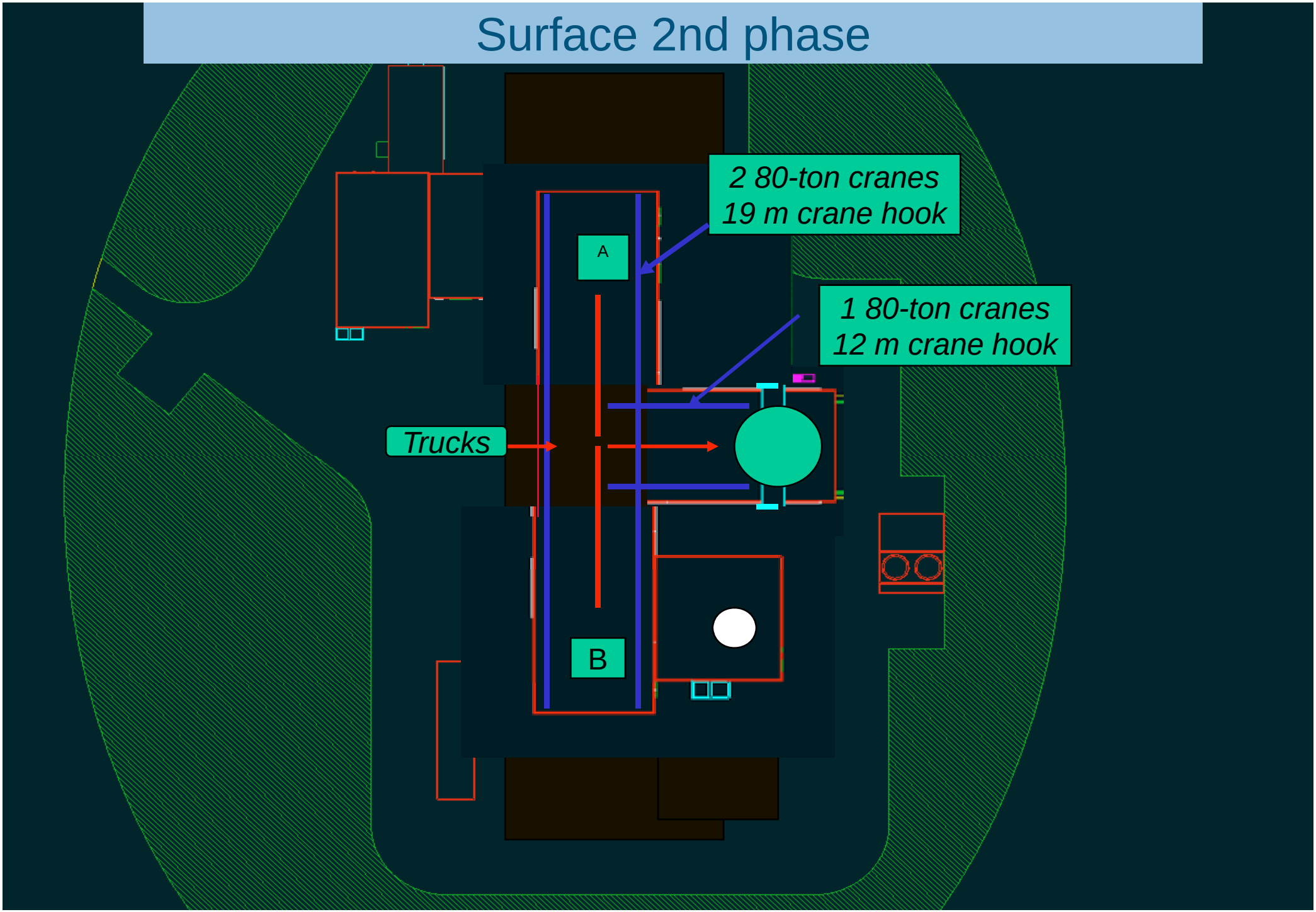
Surface

- During 1st phase, there is only one large assembly halls for Exp A and Exp B, sharing three 80-ton cranes
- During second phase, there is a side hall covering the main shaft. One 80-ton crane is used there with a 12 m crane hook, reaching to half the main assembly hall.
- The main assembly hall is left witht two 80-ton cranes with a 19-m crane hook, allowing easing transfer of loads between the three cranes.

Surface 1st phase



Surface 2nd phase



Movement of pieces